

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bednorz et al.

Art Unit: 1105

Serial No.: 08/303,561

Examiner: D. McGinty

Filed: September 9, 1994

Date: January 2, 1996

For: NEW SUPERCONDUCTIVE COMPOUNDS HAVING HIGH
TRANSITION TEMPERATURE, AND METHODS FOR THEIR
USE AND PREPARATION

AFFIDAVIT UNDER 37 C.F.R. §1.132

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

I, Chang C. Tsuei, being duly sworn, do hereby depose and state:

That I received a B.S. degree in Mechanical Engineering from National Taiwan University (1960) and M.S. and Ph.D. degrees, in Material Science (1963, 1966) respectively from California Institute of Technology.

That I have worked as a research staff member and manager in the physics of superconducting, amorphous and structured materials at the Thomas Watson Research Center of the International Business Machines Corporation in Yorktown Heights, New York, from 1973 to the present. (See attached Exhibit A for other professional employment history.)

That I have worked in the fabrication of and characterization of high temperature superconductor and related materials from 1973 to the present.

That I have reviewed the above-identified patent application and acknowledge that it represents the work of Bednorz and Muller, which is generally recognized as the first discovery of superconductivity above 26°K and that subsequent developments in this field have been based on this work.

That all the high temperature superconductors which have been developed based on the work of Bednorz and Muller behave in a similar manner, conduct current in a similar manner and have similar magnetic properties.

That once a person of skill in the art knows of a specific transition metal oxide composition which is superconducting above 26°K, such a person of skill in the art, using the techniques described in the above-identified patent application, which includes all known principles of ceramic fabrication, can make the transition metal oxide compositions encompassed by claims 24-26, 86-90 and 96-108, without undue experimentation or without requiring ingenuity beyond that expected of a person of skill in the art. This is why the work of Bednorz and Muller was reproduced so quickly after their discovery and why so much additional work was done in this field within a short period of their discovery.

By: Chang C. Tsuei
Chang C. Tsuei

Sworn to before me this 26th day of September, 1995.

Daniel P. Morris
Notary Public

DANIEL P. MORRIS
NOTARY PUBLIC, State of New York
No. 4892675
Qualified in Westchester County
Commission Expires March 15, 1997

CHANG C. TSUEI

Education

California Institute of Technology, M.S. (1963), Ph.D. (1966)
National Taiwan University, B.S. (1960)

Professional Employment

1993-present - Research Staff Member
1983-1993 - Manager, Physics of Structured Materials
1979-1983 - Manager, Physics of Amorphous Materials
1974-1975 - Acting Manager, Superconductivity
1973-1979 - Research Staff Member

Harvard University: 1980 (Summer)
Visiting Scholar in Applied Physics

Stanford University: 1982 (Sept.) - 1983 (April)
Visiting Scholar in Applied Physics

California Institute of Technology
1972 - 1973 - Senior Research Associate in Applied Physics
1969 - 1972 - Senior Research Fellow in Materials Science
1966 - 1969 - Research Fellow in Materials Science